UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,261	04/10/2001	Shinji Yamakawa	RCOH-1033	9458

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EXAMINER
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ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 04/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-64* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,22-47 and 54-64* is/are rejected.

7)☒ Claim(s) *16-22 and 48-54* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date *4*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   The numbering of claims is not in accordance with 37 CFR 1.126 which requires the

original numbering of the claims to be preserved throughout the prosecution. When claims are

canceled, the remaining claims must not be renumbered. When new claims are presented, they

must be numbered consecutively beginning with the number next following the highest

numbered claims previously presented (whether entered or not).

Misnumbered claims 60-65 have been renumbered 59-64.

2.   Claims 22 and 54 are objected to because of the following informalities: claims 22 and 54

recite the limitation "a AND (b EXNOR c)" which is improper, and should be changed to "A

AND (B XNOR C) =1 to be consistent with the specification. Additionally, while claim 54 is an

apparatus claim, it is constructed to depend on method claim 24. Appropriate correction is

required.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

4.   Claims 5-14, 23-32, 37-46, and 55-64 are rejected under 35 U.S.C. 112, first paragraph,

as failing to comply with the written description requirement. The claim(s) contains subject

matter which was not described in the specification in such a way as to reasonably convey to one

skilled in the relevant art that the inventor(s), at the time the application was filed, had

possession of the claimed invention. While the claims 5, 23, 37 and 55 recite the limitation a

third component determining $((miny-maxy)>0)$ OR $((mint-maxt)>0)$, the specification says: "

OUT = $((miny-maxy)>0)$ # $((mint-maxt)>0)$ " (See page 22 of the specification), and thus lacks

support in the specification.

Since claims 6-14, 24-32, 38-46, and 56-64 directly or indirectly depend on claims 5, 23,

37, and 55 respectively, they are also rejected under 35 U.S.C. 112, first paragraph, for the same

reason set forth above for claims 5, 23, 37 and 55.

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6.   Claims 22-32 and 54-64 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. Claims 22 and 54 recite the limitation "a=1, b=1, and c=1"

what do the parameters "a, b, and c" suppose to represent? Please clarify.

Since claims 23-32 and 55-64 directly or indirectly depend on claims 22 and 54

respectively, they are also rejected under 35 U.S.C. 112, second paragraph, for the same reason

set forth above for claims 22 and 54.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 1-4, 15, 33-36 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama, et al. (6,600,832).

With regard to claim 1, Nakayama, et al discloses a method of correctly identifying areas near character edges in character image data (See for example, col. 3, line 56 through col. 4, line 4), comprising: performing a combination of predetermined tests (which corresponds to characteristic judgment portion, emphasis setup judgment portion, and/or thresholding) on a portion of the character image data representing a character and a background, i.e., white voids, in sets of pixel color component values, the predetermined tests each determining whether or not the portion is a white area and generating a set of test results, assigning a white level value to the portion based upon the test results of the predetermined tests, and comparing the portion to a set of predetermined white patterns, i.e., background reference values, if the white level value and the test results satisfy one of predetermined conditions (See col. 9, lines 50-62; and col. 12, line 21- col. 13, line 8). Although Nakayama, et al. does not explicitly call for assigning a white level value to the portion based upon the test results of the predetermined tests, it would have been an obvious matter of design choice to modify the areas presenting negative values/white voids generated by the emphasis judgment filter with the assigning of a white level value to the portion based upon the test results of the predetermined tests so as to correctly identify the white areas by comparing the white voids or negative values with the reference background data values, since no new or unexpected results are seen to be attained by assigning a white level value to the portion based upon the test results of the predetermined tests.

With regard to claim 2, the method of identifying character edge areas in character image data according to claim 1 further comprising: performing an edge-enhancement process on the character image data so as to generate edge-enhanced character image data before said performing the set of said predetermined tests (See for example, col. 13, line 64 – col. 14, line 10), and converting each of the pixel values in the portion to white if the portion contains one of the predetermined white patterns to generate a white converted portion after said comparing the portion to the set of predetermined white patterns (See for example, col. 12, line 51 – col. 13, line 8).

With regard to claim 3, the method of identifying character edge areas in character image data according to claim 1 wherein a first one of the predetermined tests determines whether or not every one of the pixel color component values is below a first predetermined threshold value (which reads on col. 10, lines 22-26).

With regard to claim 4, the method of identifying character edge areas in character image data according to claim 3 wherein a second one of the predetermined tests includes a comparison that any B image data of RGB image data in a predetermined size matrix with a centrally located current pixel is under a predetermined threshold (which broadly reads on Figs. 4, 6-8, and 12).

With regard to claim 15, the method of identifying character edge areas in character image data according to claim 2 further comprising detecting edges in the portion of the character image data to generate an edge signal (See item 21, in Fig. 3).

Claim 33 is rejected the same as claim 1 except claim 33 is directed to an apparatus claim. Thus, argument analogous to that presented above for claim 1 is equally applicable to claim 33.

Claims 34, 35, 36 and 47 are rejected the same as claims 2, 3, 4 and 15 respectively except claims 34, 35, 36 and 47 are directed to apparatus claims. Thus, arguments analogous to those presented above for claims 2, 3, 4 and 15 are respectively applicable to claims 34, 35, 36 and 47.

Allowable Subject Matter

9.   Claims 16-21 and 48-53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The closest prior art to Nakayama, et al. does not teach or fairly suggest performing a first dot pattern peak test based upon a first certain set of color component pixel values of the portion to determine a first dot pattern peak, a first component of said first dot pattern peak test determining whether or not a color component pixel value of a centrally located pixel of the portion has the highest value or the lowest value in the portion; a second component of said first dot pattern peak test determining whether or not an absolute difference in the color component pixel value of the centrally located pixel and an average of each pair of the color component pixel values of pixels that are symmetrically located about the centrally located pixel exceeds a predetermined dot pattern peak threshold value. It is for this reason that claims 16-21 and 48-53 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. US Patent Numbers: 5331442, 5696842, and 5768403, and a Publication to: Suen, et

al. "Text string extraction from images of colour printed documents", and Huang, et al

"Segmenting representing background in color images".

11.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to DANIEL G MARIAM whose telephone number is 703-305-

4010. The examiner can normally be reached on M-F (7:00-4:30) FIRST FRIDAY OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, LEO BOUDREAU can be reached on 703-305-4607. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DANIEL MARIAM
PRIMARY EXAMINER
April 12, 2004